Akhil Shaji Lal

Data Scientist | Predictive Modeling | Python | SQL | Analytics

UAE

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Portfolio

Profiles

Akhil S Lal
LinkedIn

Akhil S Lal
GitHub

Education

Woolf University
MS in Computer Science: Machine Learning and Artificial Intelligence
December 2025 - May 2027(Expected)

Nitte Meenakshi Insititute of Technology, Bengaluru
Bachelor of Engineering in Artificial Intelligence and Data Science
7.70 GPA
October 2021 - July 2025

Skills

Programming & Data:
Python, SQL

Machine Learning & Analytics:
Predictive Modeling, Regression, Classification, Feature Engineering, Model Evaluation

Libraries & Tools:
Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn

Visualization & Reporting:
Power BI, Excel, Tableau

Certifications

Google Professional Data Analytics | Infosys CompTia Network+ (N10-008) | UC Davis: SQL Data Science | Human Resource Development

Publications

SMART AGRICULTURAL SOLUTIONS FOR YIELD ADVANCEMENT USING CNN
IEEE
Read

Languages

English, Hindi, Malayalam, Kannada

Data Scientist with hands-on experience in **predictive modelling, exploratory data analysis, and applied machine learning**. Strong background in **Artificial Intelligence and Data Science** with industry exposure in telecom analytics. Skilled in **Python, SQL, and data-driven problem solving** to support **operational and business decision-making.**

Experience

Mu Sigma Business Solutions Pvt. Ltd — **October 2024 – January 2026**
Decision Scientist (Analytics & Data Science) — Bengaluru, India

- Analysed large-scale **telecom network performance data** to identify patterns in latency, throughput, congestion, and tower health.
- **Built analytical and predictive models** to detect network performance issues and improve operational response time proactively.
- Developed performance **dashboards and reports using Excel and PowerPoint to communicate insights** to operations and leadership teams.
- Supported resource allocation and capacity planning initiatives through **data-driven analysis,** contributing to improved network reliability and efficiency.
- Collaborated with cross-functional stakeholders to translate technical findings into **actionable business insights.**

MedTourEasy Pvt. Ltd (Earned a LoR certificate) — **September 2023 – October 2023**
Data Analytics Apprenticeship

- Conducted **statistical analysis** on a dataset of 5,000+ records to study the relationship between handedness and lifespan using Bayesian methods.
- Performed **data cleaning, exploratory analysis, and visualisation** in Python to support **hypothesis testing.**
- Presented findings through **clear visualisations and summary insights,** concluding no statistically significant lifespan difference.

Projects

Network Performance Prediction & Operational Insights

- Designed end-to-end **machine learning pipelines** to analyze **millions of telecom network records** across regions and towers, identifying performance patterns in **latency, throughput, and congestion**.
- Built predictive models for **latency spikes, throughput variation, and congestion trends**, enabling **proactive issue detection** and contributing to an estimated **15% reduction in network downtime**.
- Prepared a **lightweight visualization layer and dashboards** highlighting key KPIs (latency, speed, tower health, congestion), reducing anomaly detection time by **30–40%** for operations teams.
- Applied structured **problem-solving and data-driven insights** to translate complex network behavior into **actionable business metrics, informing operational efficiency,** decision turnaround time, and overall business strategy.

Real-Time AQI Monitoring & Prediction System
https://akhil-aqi.streamlit.app/

- Built an end-to-end real-time AQI prediction pipeline using ML models and live OpenAQ data, supporting **20+ Indian cities** with automated data ingestion, preprocessing, and prediction every **20 seconds**, ensuring near real-time monitoring app.
- Implemented **EMA-based smoothing (α = 0.3)** and forward-fill strategies to handle missing sensor values, reducing prediction volatility and improving stability of AQI trends by an estimated **25–30%** compared to raw inputs app.
- Integrated a trained ML model with feature scaling to generate AQI values across **6 standardized air-quality buckets**, enabling clear risk categorization and actionable insights for users via an interactive Streamlit dashboard app.
- Automated data persistence by logging timestamped predictions and pollutant readings to CSV, creating a growing historical dataset for trend analysis and visualization, accumulating **100+ records per day** under continuous operation

SASYA – The CropCure Analyst
https://drive.google.com/file/d/1f7dsbrPSoFupCWdwffAXy8U52q8C7fPR/view?usp=sharing

- Deployed a **CNN-based plant disease classification model** using the **New Plant Diseases Dataset (38 classes, 1,25,000+ images)**, achieving **~93–95% validation accuracy** through data augmentation and hyperparameter tuning.
- Executed end-to-end ML workflow including **data cleaning, image preprocessing, augmentation, model training, and evaluation**, measuring performance with **precision, recall, F1-score, and confusion matrix**.
- Built and deployed an **interactive Gradio web application** enabling real-time image uploads and disease prediction with treatment recommendations, improving accessibility for **non-technical end users (farmers)**.
- Delivered a production-ready ML solution by integrating the trained CNN with a user-friendly UI, reducing manual disease identification effort by **~70%** and enabling faster decision-making.